

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A through wiring board provided with a through wiring in a through hole which is formed through a board, said through wiring board comprising: the through hole opened through said board; a through extension wiring with which said through hole is completely filled and which is formed on one surface of said through wiring board to extend to a position at a predetermined distance from said through hole; and a bump having a conductivity, formed on said through extension wiring and located in a position other than the position where said through hole is opened.

2. (original): The through wiring board as claimed in claim 1 wherein an insulating layer is provided between said board and at least said through wiring and said through extension wiring.

3. (original): The through wiring board as claimed in claim 1 further comprising: a through extension wiring with which said through hole is filled in the other surface of said through wiring board and which is formed on the other surface of said through wiring board to extend to a position at a predetermined distance from said through hole; and a bump having a conductivity, formed on said through extension wiring and located in a position other than the position where said through hole is opened.

4. (currently amended): A through wiring board provided with a through wiring in a through hole which is formed through a board, said through wiring board comprising the through hole opened through said board; an insulating resin layer formed on the surface of said through wiring board except for the area where said through hole is opened in at least one surface of said through wiring board; a through extension wiring with which said through hole is completely filled and which is formed on said insulating resin layer on said one surface of said through wiring board to extend to a position at a predetermined distance from said through hole; and a bump having a conductivity, formed on said through extension wiring and located in a position other than the position where said through hole is opened.

5. (currently amended): A method of manufacturing a through wiring board provided with a through wiring in a through hole which is formed through a board, said method comprising: a step of forming the through hole opened through said board; a step of forming a through extension wiring on one surface of said through wiring board to completely fill said through hole and extend to a position at a predetermined distance from said through hole, and a step of forming a bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened.

6. (currently amended): A method of manufacturing a through wiring board provided with a through wiring in a through hole which is formed through a board, said method comprising a step of forming the through hole opened through said board; a step of forming an insulating resin layer on the surface of said through wiring board except for the area where said

through hole is opened in at least one surface of said through wiring board; a step of forming a through extension wiring on one surface of said insulating resin layer to completely fill said through hole and extend to a position at a predetermined distance from said through hole; and a step of forming a bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened.

7. (currently amended): A through wiring board provided with a through wiring in a through hole which is formed through a board, said through wiring board comprising: the through hole opened through said board; a through wiring formed in said through hole which completely fills said through hole; a first reroute wiring which comes in contact with a first exposed wiring portion of said through wiring and which is formed on a ~~at~~ first surface of said through wiring board to extend on said first surface of said through wiring board to a position at a predetermined distance from said first exposed wiring portion; a bump having a conductivity, formed on said first reroute wiring and located in a position other than the position where said first reroute wiring of said through wiring is formed; a second reroute wiring which comes in contact with a second exposed wiring portion of said through wiring on a second surface of said through wiring board and which is formed on the second surface of said through wiring board to extend to a position at a predetermined distance from said second exposed wiring portion; and a bump having a conductivity, formed on said second reroute wiring and located in a position other than the position where said second exposed wiring portion of said through wiring is formed.

8. (previously presented): The through wiring board as claimed in claim 7 wherein an insulating layer is provided between said board and at least said through wiring and both of said first reroute wiring and said second reroute wiring.

9. (canceled).

10. (currently amended): A through wiring board provided with a through wiring in a through hole which is formed through a board, said through wiring board comprising: the through hole opened through said board; a through wiring formed in said through hole which completely fills said through hole; an insulating resin layer formed on the surface of said through wiring board except for the area where a first exposed wiring portion is located on a first surface of said through wiring board; a first reroute wiring which comes in contact with said first exposed wiring portion of said through wiring and which is formed on said insulating resin layer on a first surface of said through wiring board to extend to a position at a predetermined distance from said first exposed wiring portion; a bump having a conductivity, formed on said first reroute wiring and located in a position other than the position where said first exposed wiring portion is formed; a second reroute wiring which comes in contact with a second exposed wiring portion of said through wiring on a second surface of said through wiring board and which is formed on the second surface of said through wiring board to extend to a position at a predetermined distance from said second exposed wiring portion; and a bump having a conductivity, formed on said second reroute wiring and located in a position other than the position where said second exposed wiring portion of said through wiring is formed.

11. (previously presented): The through wiring board as claimed in claim 10 wherein there is a protrusion made of an insulating resin on said insulating resin layer formed on said first surface of said through wiring board except for the area where said first exposed wiring portion is located, wherein said first reroute wiring is formed in order to cover said protrusion, and wherein the bump having the conductivity is formed on said first reroute wiring which is formed on the upper surface of said protrusion.

12. (currently amended): A method of manufacturing a through wiring board provided with a through wiring in a through hole which is formed through a board, said method comprising a step of forming a through wiring in the through hole opened through said board, the through wiring completely filling said through hole; a step of forming a first reroute wiring on a first surface of said through wiring board in order to come in contact with a first exposed wiring portion of said through wiring and extend to a position at a predetermined distance from said first exposed wiring portion; a step of forming a first bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened; a step of forming a second reroute wiring in a second surface of said through wiring board in order to come in contact with a second exposed wiring portion of said through wiring and extend to a position at a predetermined distance from said second exposed wiring portion; and a step of forming a second bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened.

13. (currently amended): A method of manufacturing a through wiring board provided with a through wiring in a through hole which is formed through a board, said method

comprising a step of forming a through wiring in the through hole opened through said board, the through wiring completely filling said through hole ; a step of forming an insulating resin layer on a first surface of said through wiring board except for the area where a first exposed wiring portion is located on said first surface of said through wiring board; a step of forming a first reroute wiring said first surface of said through wiring board in order to come in contact with said first exposed wiring portion of said through wiring and extend on said insulating resin layer to a position at a predetermined distance from said first exposed wiring portion; a step of forming a first bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened; a step of forming a second reroute wiring in a second surface of said through wiring board in order to come in contact with a second exposed wiring portion of said through wiring and extend to a position at a predetermined distance from said second exposed wiring portion; and a step of forming a second bump having a conductivity on said through extension wiring in a position other than the position where said through hole is opened.

14. (previously presented): The through wiring board as claimed in claim 2, further comprising a seed layer disposed between the insulating layer and the through extension wiring.

15. (previously presented): The through wiring board as claimed in claim 4, wherein an insulating layer is provided between said board and at least said through wiring and said through extension wiring; and further comprising a seed layer disposed between the insulating layer and the through extension wiring.

16. (previously presented): The method as claimed in claim 5, further comprising a step of forming an insulating layer provided between said board and at least said through wiring and said through extension wiring; and a step of forming a seed layer disposed between the insulating layer and the through extension wiring.

17. (previously presented): The method as claimed in claim 6, further comprising a step of forming an insulating layer provided between said board and at least said through wiring and said through extension wiring; and a step of forming a seed layer disposed between the insulating layer and the through extension wiring.